



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/561,384

12/16/2005

Mitsuaki Oshima

49288.1800

6471

52044

7590

07/22/2009

SNELL & WILMER L.L.P. (Panasonic)

600 ANTON BOULEVARD

SUITE 1400

COSTA MESA, CA 92626

EXAMINER

VU, NGOC YEN T

ART UNIT

PAPER NUMBER

2622

MAIL DATE

DELIVERY MODE

07/22/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,384	Applicant(s) OSHIMA, MITSUAKI	
	Examiner NGOC-YEN T. VU	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/15/2009 has been entered.

Response to Amendment

2. The amendments, filed 06/15/2009, have been entered and made of record. Claims 1-15 are pending.

Response to Arguments

3. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-8, 12-13 and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara (US 6,963,361) in view of Gove (US 5,973,733) and in further view of Kaneda et al. (US 2002/0063779)

Claim 5 will be discussed first. Regarding ***Claim 5***, Kawahara teaches an image pickup apparatus (Fig. 14) for taking a static image during a predetermined exposure period, comprising:.

a shaking motion detecting section for detecting an amount of shaking motion between a plurality of frames representing the static image (Fig. 14, velocity sensors 107-108; col. 12:55 - col. 13:4; col. 13:31-45);

a shaking motion correcting section (Fig. 14, enlargement/interpolation/pixel shifting circuit 105) for correcting a plurality of frame information indicating the plurality of frames by setting a number of virtual pixels included in each of the plurality of frames to be larger than a number of actual pixels included in an image pickup plane of an image pickup element in accordance with the detected amount of the shaking motion (Figs. 17-20; col. 15:19 - col. 17:25);

a storage section (camera signal processor 104) for storing the plurality of frame information subjected to the correction of the shaking motion (it is inherent that the camera signal processor 104 stores a plurality of frame information subjected to the correction of the shaking motion by the enlargement/interpolation circuit 105).

Kawahara fails to teach an information generating section for generating static image information indicating the static image based on the plurality of frame information stored in the storage section. In the same field of endeavor, Gove teaches a stabilization system comprising a storage section (frame memory 64 - col. 4:12-18) for storing the plurality of frame information subjected to the correction of the shaking motion and an information generating section (processor 50) for generating static image information indicating the static image based on the plurality of frame information stored in the storage section (col. 4:19-25; col. 5:3 - col.6:14). In light of the teaching from Gove, it would have been obvious to employ an information generating section in the image pickup apparatus of Kawahara in order to provide stabilize previously stored frame signals.

Kawahara in view of Gove fails to teach the number of virtual pixels is set based on a ratio of a predetermined actual pixel size to the amount of shaking motion between the plurality of frames. However, the limitation is well-known in the art as shown in Kaneda. In the same field of endeavor, Kaneda teaches an image-shake correcting device comprising a shaking motion detecting section (Fig. 1, motion vector detecting circuit 15), a shaking motion correcting section (Fig. 1, logic operation circuit 17, memory controlling circuit 18), a storage section for storing a plurality of frame information subjected to the correction of the shaking motion (Fig. 1, field memory 19) and an electronic zoom circuit (20) for setting a number of virtual pixels included in each of the plurality of frames (¶0040-0043). Kaneda further teaches that different number of virtual pixels are generated for different amount of shaking motion or the number of virtual pixels is set based on a ratio of a predetermined actual pixel size to the amount of shaking motion between the plurality of frames (Figs. 2-3, ¶0049-0055). In light of the teaching in Kaneda, it would have been obvious to one skilled in the art at the time the invention is made to vary the number of virtual pixels in the image-shake correcting device of Kawahara and Gove in order to provide an optimum shake correction while minimizing resolution degradation due to image movement.

Regarding **Claim 6**, Kawahara in view of Gove and Kaneda teaches the image pickup apparatus according to claim 5, wherein the information generating section generates the static image information by simultaneously calculating the plurality of frame information stored in the storage section (Gove - col. 4:19-25; col. 5:3 - col.6:14).

Regarding **Claim 7**, Kawahara in view of Gove and Kaneda teaches the image pickup apparatus according to claim 5, wherein the information generating section generates the static

image information by sequentially calculating each of the plurality of frame information stored in the storage section (Gove, col. 4:19-25; col. 5:3 - col.6:14).

Regarding **Claim 8**, Kawahara teaches the image pickup apparatus according to claim 5 further comprising a resolution changing section (Fig. 14, enlargement/interpolation circuit 105) for changing a resolution of the plurality of frames in accordance with the amount of the shaking motion (Figs. 17-20; col. 15:19- col. 17:25).

Regarding **Claim 12**, Kawahara in view of Gove and Kaneda teaches the image pickup apparatus according to claim 5, wherein the shaking motion detecting section detects the amount of the shaking motion based on a summation of information indicating a plurality of pixels included in an the image pickup plane of an the image pickup element (Gove; col. 6:15--col. 7:11), and the shaking motion correcting section corrects the plurality of frame information by cutting out a part of the plurality of frame information in accordance with the amount of the shaking motion (Gove - col. 4:19-25; col. 5:3 - col.6:14).

Regarding **Claim 13**, Kawahara teaches the image pickup apparatus according to claim 5, wherein the shaking motion detecting section detects the amount of the shaking motion based not on information generated based on a plurality of pixels included in an the image pickup plane of an the image pickup element (Fig. 14, velocity sensors 107-108; col. 12:55 - col. 13:4; col. 13:31-45).

Regarding **Claims 1 & 15**, although the wording is different, the material is considered substantively equivalent to the material associated with claim 5 as discussed above.

Regarding **Claim 2**, although the wording is different, the material is considered substantively equivalent to the material associated with claim 6 as discussed above.

Regarding *Claim 3*, although the wording is different, the material is considered substantively equivalent to the material associated with claim 7 as discussed above.

Regarding *Claim 4*, although the wording is different, the material is considered substantively equivalent to the material associated with claim 12 as discussed above.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara (US 6,963,361) in view of Gove (US 5,973,733) and Kaneda (US 2002/0063779), and further in view of Kotaki (JP 2001-230965A).

Regarding *Claim 9*, Kawahara in view of Gove and Kaneda fails to teach the image pickup apparatus according to claim 8 further comprising a frame rate changing section for changing a frame rate in accordance with the amount of the shaking motion, wherein the frame rate indicates the number of the plurality of frames representing the static image taken per unit time. In the same field of endeavor, Kotaki teaches an image pickup apparatus including a frame rate changing section 22 for changing a frame rate in accordance with the amount of the shaking motion, wherein the flame rate indicates the number of the plurality of flames representing the static image taken per unit time (Abstract - the number of images to add pixels being flame rate). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the image pickup apparatus taught by Kawahara and Gove as viewed to allow adjustment of flame rate C based on the amount of the shaking motion as taught by Kotaki in order to preserve picture quality (Kotaki - Abstract).

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara (US 6,963,361) in view of Gove (US 5,973,733) and Kaneda (US 2002/0063779), and further in view of Kingetsu (US 6,181,379).

Regarding *Claim 10*, Kawahara in view of Gove and Kaneda fails to teach the image pickup apparatus according to claim 5, further comprising a resolution changing section for changing a resolution of the plurality of frames in accordance with a brightness. In the same field of endeavor, Kingetsu discloses an image pickup apparatus including automatically adjusting resolution based on brightness in favor of good exposure (Fig. 8, 10, col. 1:56-62, col. 4:54 - col. 5:7). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the image pickup apparatus taught by Kawahara and Gove to further adjust resolution of the plurality of frames based on brightness as taught by Kingetsu in order to obtain good final image reproduction (Kingetsu, col. 5:2-4).

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara (US 6,963,361) in view of Gove (US 5,973,733) and Kaneda (US 2002/0063779), and further in view of Okada (US 5,502,484).

Regarding *Claim 11*, Kawahara in view of Gove and Kaneda fails to teach the image pickup apparatus according to claim 10, further comprising a resolution changing section for changing a resolution of the plurality of frames in accordance with a zoom ratio. In the same field of endeavor, Okada discloses an image pickup apparatus further comprising a resolution changing section for changing a resolution of the plurality of frames in accordance with a zoom ratio (Fig. 1,5A-B, 6, 9A-B, 10, 11; col. 6:46-54). Therefore it would have been obvious to one

Art Unit: 2622

having ordinary skill in the art at the time of the invention to modify the image pickup apparatus taught by Kawahara and Gove to further provide an electronic zoom function modifying the plurality of frames based on a specified zoom ratio as taught by Okada in order to provide a zooming function.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara (US 6,963,361) in view of Gove (US 5,973,733) and Kaneda (US 2002/0063779), and further in view of Hara (US 7,057,645).

Regarding *Claim 14*, Kawahara in view of Gove and Kaneda fails to teach the image pickup apparatus according to claim 5, further comprising a determining section for determining whether or not the predetermined exposure time is greater than a predetermined value, and wherein, when it is determined that the predetermined exposure time is greater than the predetermined value, the shaking motion detecting section detects the amount of the shaking motion based on a summation of information indicating a plurality of pixels included in an the image pickup plane of the image pickup element. In the same field of endeavor, Hara teaches an image pickup apparatus comprising a determining section (130) for determining whether or not the predetermined exposure time T_1 is greater than a predetermined value $2T_0$, and wherein, when it is determined that the predetermined exposure time is greater than the predetermined value #150 (Hara Fig. 8 - step #150 is the mode that the shaking motion detecting section will be utilized), the shaking motion detecting section detects the amount of the shaking motion based on information generated by adding information indicating a plurality of pixels included in the image pickup plane. Therefore it would have been obvious to one having ordinary skill in the art

Art Unit: 2622

at the time of the invention to modify the image pickup apparatus taught by Kawahara and Gove to further provide the determining section based on the predetermined exposure time as taught by Hara in order to provide a stabilized image.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NGOC-YEN T. VU whose telephone number is (571)272-7320. The examiner can normally be reached on Mon. – Fri. from 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on 571-272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ngoc-Yen T. VU/

Primary Examiner, Art Unit 2622

07/20/2009

Application/Control Number: 10/561,384
Art Unit: 2622

Page 10